

From glowbugs@theporch.com Sat Oct 26 11:18:25 1996
Return-Path: <glowbugs@theporch.com>
Received: from uro (localhost.theporch.com [127.0.0.1]) by uro.theporch.com
(8.8.2/AUX-3.1.1) with SMTP id LAA02883; Sat, 26 Oct 1996 11:12:33 -0500 (CDT)
Date: Sat, 26 Oct 1996 11:12:33 -0500 (CDT)
Message-Id: <199610261612.LAA02883@uro.theporch.com>
Errors-To: conard@tntech.campus.mci.net
Reply-To: glowbugs@theporch.com
Originator: glowbugs@theporch.com
Sender: glowbugs@theporch.com
Precedence: bulk
From: glowbugs@theporch.com
To: Multiple recipients of list <glowbugs@theporch.com>
Subject: GLOWBUGS digest 332
X-Listprocessor-Version: 6.0c -- ListProcessor by Anastasios Kotsikonas
X-Comment: Please send list server requests to listproc@theporch.com
Status: 0

GLOWBUGS Digest 332

Topics covered in this issue include:

- 1) Re: Regen Plans
by jeffd@coriolis.com (Jeff Duntemann)
- 2) Re: tube bank
by haynes@cats.ucsc.edu (Jim Haynes)
- 3) Re: Regen Plans
by Steve Byan <steve@hi.com>
- 4) Re: Regen action report
by rdkeys@csemail.cropsci.ncsu.edu
- 5) Re: Regen Plans
by jlevro@shore.net (John Levreault)
- 6) Re: noise limiter help
by "Brian Carling" <bry@mnsinc.com>
- 7) 6L6 Xmtr update...
by Gordon Gekko <gekko@nwlink.com>
- 8) Re: TUBE BANK(s) Idea!
by k7yha@juno.com (Richard H. Arland)
- 9) Re: Glowbugs admin ... please read.
by aa7ya@juno.com
- 10) Hammarlund Coil Forms
by toyboat@freenet.edmonton.ab.ca
- 11) Re: TUBE BANK(s) Idea!
by jlevro@shore.net (John Levreault)

Date: Fri, 25 Oct 1996 09:16:16 -0700

From: jeffd@coriolis.com (Jeff Duntemann)
To: jkh@lexis-nexis.com
Cc: glowbugs@theporch.com
Subject: Re: Regen Plans
Message-ID: <1.5.4.32.19961025091155.00f07c7c@ntserver.coriolis.com>

At 09:32 AM 10/25/96 -0500, you wrote:

>For those who are searching for regen projects I might suggest looking in your older
>tube manuals. I am looking in the circuit section of my RCA RC-16(1950)
Receiving
>Tube Manual and find three interesting circuits numbered 16-5, 16-6, and
16-7. The
>first is a superregenerative receiver with it's own power supply and using a
6C4 for
>a detector. It has a two tube audio stage driving a speaker. With the 6X4
power supply
>it's a four tuber.

>Are there other examples in tube manuals you have? Or are these designs
really pretty
>ho-hum?

I built the 2-tube audio section from that RCA 6C4 superregen into a couple of different receivers, and it works beautifully, capable of ear-splitting volume. It's a great proven "building block" for homebrew designs of whatever architecture. You might have to tweak it a little to tie the diodes in the first audio envelope back into the rest of a superhet, but for a regen it stands alone nicely without modifications.

I'll be happy to send a copy of the page with that circuit to anyone who sends me an 32c business-size SASE.

--73--

--Jeff Duntemann KG7JF
The Coriolis Group, Inc.
7339 E. Acoma Drive, Suite 7
Scottsdale AZ 85260

Date: Fri, 25 Oct 1996 10:04:45 -0700
From: haynes@cats.ucsc.edu (Jim Haynes)
To: glowbugs@theporch.com
Subject: Re: tube bank

Message-ID: <199610251704.KAA04431@hobbes.UCSC.EDU>

There was something in QST in the last couple of months about a guy in San Diego who has a tube bank for mail order - tubes are free but you pay for the shipping. Then there's a guy locally who was given a large stash of tubes by some ham who retired and moved, so we have a local tube bank.

Date: Fri, 25 Oct 1996 13:51:08 -0400
From: Steve Byan <steve@hi.com>
To: jkh@lexis-nexis.com
Cc: glowbugs@theporch.com
Subject: Re: Regen Plans
Message-ID: <v03007808ae96abc8e03f@[140.243.30.128]>

>third one is a little battery set with a 1U4 RF amp, a 1U4 detector,
>and a 3V4 power amp also driving a speaker. It wants 90 volts B+ and
>1.4 volts to the filaments.

That circuit is also in the reprint of the 1959 RCA Receiving Tube Handbook available from Antique Electronic Supply. I've had my eye on it for a while and have been collecting parts for it at the fleas. I have a real weakness for portable battery sets since I started SWLing on a RCA Strato-World portable. The hardest part was finding a dual 140 pF air-variable cap; I came across some NOS Hammarlund HCD-140-M's that I snarfed up for this project. RCA lists the coils as "standard 6-pin coil set for 140 pF tuning cap" with no winding data, so I figure I'll be doing a bit of experimentation while winding the coils.

I've been debating whether to rely on mechanical bandspread from the dual-ratio (6:1 and 36:1) Jackson Bros dial drive I have squirreled away or to use a 35 pF dual variable cap for electrical bandspread. I'm interested in shortwave listening, mostly below 7 MHz, but would like general coverage too. Perhaps I'll make up a couple of bandspread coil sets for the 60, 90, and 120 meter SWBC bands in addition to the general coverage coil sets.

Regards,
-Steve

Steve Byan internet: steve@hi.com
Hitachi Computer Products (America), Inc.
1601 Trapelo Road phone: (617) 890-0444
Waltham, MA 02154 FAX: (617) 890-4998

Date: Fri, 25 Oct 1996 14:32:48 -0400 (EDT)
From: rdkeys@csemail.cropsci.ncsu.edu
To: conard@tntech.campus.mci.net (Conard Murray)
Cc: rdkeys@csemail.cropsci.ncsu.edu (), glowbugs@theporch.com
Subject: Re: Regen action report
Message-ID: <9610251832.AA105848@csemail.cropsci.ncsu.edu>

Conard.... you raise some good points for discussion, so I will pass it to the list.

> Well, my first regen broke into oscillation at approx 12:45 last night.

What a warm fuzzy, fer sure.....

> I was having problems with no oscillation. I fiddled with the tickler > for 45 mins but was sure I had that part right. I tacked a dual section > 365 uuf across the throttle in desperation and (!whammo!), it took off.

Generally a tickler should be about 10-20 percent of the main coil, max on a triode and maybe only 5-10 percent on a pentode or tetrode tube. Use as little tickler as will regenerate. Use a good RF choke at the throttle condenser to make sure the condenser gets the control.

My usual throttle is a 150 uuf minimum, but I will use a 365 if I have a small spare from a bcst set. To set the tickler turns, put the throttle control about half way at the expected plate voltage and then shunt the throttle with a 0.001 (1000pf) condenser to give you a forced oscillation. If that works, then all is well. If that does not work, check the wiring for a reversed tickler (Tuska's reversed tickler neutrodyne circuit). A reversed tickler degenerates rather than regenerates. Also check for a good grid leak and grid cap. Usually the reversed tickler is the culprit. Once the number of tickler turns are set, dope the coil to make it permanent and you are all set. Usual dope is ladies clear fingernail polish or Duco household cement. Real coil dope is scarce these days. AES may have some.

> I can actually hear signals with it.

Sensitive little mutters, ain't they.....(:+}{}.....

> I had a real lashup for a power supply as I was using my 500 volt general purpose plate supply with a variac holding it down to 45 volts. Lotsa > lotsa huuuuuuuummmmmmm, but still could hear stuff. I see what you meant > about leaving room for mods, as these regen sets are something to fool with.

Always use a battery supply if possible on regens, or and ac supply with a VERY WELL filtered output.

Yes, room to play is always welcome on a regen, and it helps to prevent stray couplings that reduce Q and selectivity.

> I was having problems with the throttle pulling the frequency pretty bad,
> so I took off about 1/3 of the tickler winding and that cured most of the
> pulling effect as well as making the control better.

Usually, that indicates a poor feedback path. Most of the time that is due to a poor telephone bypass cap on a single tube or a poor RF choke in the plate circuit of the detector of a multi-tube circuit.

Always use the minimal tickler required to get good regeneration. Those who have a variometer coil can set the variometer to just induce regeneration with the throttle condenser set about half way, and that makes regeneration as smooth as silk.

When the regeneration control is good, you should barely be able to hear it squeeze up into oscillation, and it should have a slight plop coming out of regeneration. If it plops with a hard sound both into and out of regeneration, you have too sensitive a throttle (too much tickler).

> Also found out about some of the effects of the grid-leak capacitance.
> I am using your 10 Meg and 10 uuf values, but I had tacked a 680 uuf
> across the leak trying to get it to oscillate. The 680 uuf value was
> from another schematic for a SWL rx and with it the set sounded about
> right for AM. I snipped the 680 out and you could really hear the
> selectivity narrow down.

Typically, at longwaves, a 500pf cap was used. Typically at medium waves, a 250 pf cap was used. Typically at short waves, a 100pf cap was used. For my use, I prefer the minimum grid cap that will work, and at HF opt for the 10pf cap with a high value grid leak. In my hands it works better. It also increases the selectivity, as you found out.

I prefer the highest grid leak value that I have handy. Usually that is 10 megs, but sometimes, if the grid cap is leaky, you don't even need a grid leak at all. There is a point at which the too high leak value will cause the grid to freeze up and not leak its charge with a sufficiently high audio time constant. Beyond that leak value it just won't work. My guess is that that value is practically around 100 meg ohms.

> I gotta work on the tuning rate also. I am using a 5-40 uuf variable,
> but I think I will swap out to a better 100 uuf unit and pad it out to
> cover the band. I was thinking of using band-set caps and such, but I
> want the stability more than I want to be able to slip out of the ham
> bands.

A 100uf unit will go way beyond the bands. Your 5-40 uuf should cover all of 80 meters. I use a single plate to cover just the CW portion of choice (3500-3600khz). Usually little band set cap is required, although I have been known to hang a 25pf variable to adjust the band edges to where they hit the 0 or 100 mark exactly on a velvet vernier. If you have more than about 25pf of padder, then the effective range of the tuning cap is somewhat less, but a 40pf cap should still cover all of 80 meters.

> A friend just brought me a sack with 20 half-shot 9 Volt batteries so > will try that later for a plate supply. He also has a large supply of > retired 6 Volt 2 Amp/hour batteries that I can raid. That will be even > better!

The 9 volters are a waste in my book, except for emergency lashup. The 2ah sealed lead acids, on the other hand, make an excellent battery power supply if you can muster up 36 or 48 volts worth.

> Sorry to go on for so long

That is what the list is about, amongst other things, right?

> Yours regenerative-ly

Hey, that is a fine way to be known..... regeneratively!

> ZUT!
> de Conard ws4s
> Conard Murray WS4S NNNQUTN conard@tntech.campus.mci.net
> 217 Dyer Avenue BA/GB net 1802.5/3579.5/7050 KHz
> Cookeville, Tn 38501
> 615-526-4093
> - LICENSED ONLY TO EXTENT INDICATED ON CARTON -

Typical RCA label there, fer sure.....(:+}{}.....

73/ZUT DE NA4G/Bob UP

Date: Fri, 25 Oct 1996 14:29:59 -0400 (EDT)
From: jlevro@shore.net (John Levreault)
To: jkh@lexis-nexis.com
Cc: glowbugs@theporch.com
Subject: Re: Regen Plans
Message-ID: <199610251829.0AA25285@relay1.shore.net>

>For those who are searching for regen projects I might suggest looking in your older
>tube manuals. I am looking in the circuit section of my RCA RC-16(1950) Receiving
>Tube Manual and find three interesting circuits numbered 16-5, 16-6, and 16-7. The
>first is a superregenerative receiver with it's own power supply and using a 6C4 for
>a detector. It has a two tube audio stage driving a speaker. With the 6X4 power supply
>it's a four tuber. The next page has a ac-operated regen, for those who have a power
>supply, employing a 6SK7 in both an RF amp stage and as a detector. It also has an
>audio section with a voltage amp amd a 6K6 power amp stage driving a speaker. The
>third one is a little battery set with a 1U4 RF amp, a 1U4 detector, and a 3V4 power
>amp also driving a speaker. It wants 90 volts B+ and 1.4 volts to the filaments.
>
>These circuits are claimed to be well though out and conservative designs(at least RCA
>thought so) but RCA thoughtfully leaves the construction details to the reader. They
>look sound to me and perhaps have enough clues to the coil winding requirements to
>be build-able without too much trouble. Might be worth looking at.
>
>Are there other examples in tube manuals you have? Or are these designs really pretty
>ho-hum?
>
>Regards,
>John Heck, KC8ETS
>Dayton, Ohio
>jkh@lexis-nexis.com
>

Yes, they are pretty ho-hum, but they may actually have been used in real products.

One example of this is the RIAA-phono preamplifier that appears as Figure 29-16 in my RCA Receiving Tube Manual, RC-29. This design has been used by number of manufacturers when they needed a phono stage in their hi-fi preamps and integrated amps. It's a simple but very good circuit with quite good sound, although its performance is highly dependent on the component quality and power supply. There's a guy in PA (Handmade Electronics) who's

presently offering a kit based on this design, if anyone out there is interested in tube audio in addition to this here glowbugness.

All of the circuits in the RCA manual were apparently built and tested by their engineers. Personally, I wouldn't hesitate trying to duplicate one of those designs, although parts gathering may be a problem.

73 de NB1I
John Levreault

Date: Fri, 25 Oct 1996 12:18:55 +0000
From: "Brian Carling" <bry@mnsinc.com>
To: glowbugs@theporch.com
Subject: Re: noise limiter help
Message-ID: <199610251916.PAA16875@user2.mnsinc.com>

HEY! It's a reply from AF4K!
On 25 Oct 96, Roy Morgan wrote:
> I'm all set
> for rock-bound ether poking on the ole QRG. Now, if we could only
> get W1AW to go to bed earlier ...

I wish that they would realize how many people want to use 3579, and then QSY the W1AW signal up a couple!

73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA
bry@mnsinc.com
*** See the great ham radio resources at:
<http://www.mnsinc.com/bry/>

Date: Fri, 25 Oct 1996 12:46:16 -0700 (PDT)
From: Gordon Gekko <gekko@nwlink.com>
To: glowbugs@theporch.com
Subject: 6L6 Xmtr update...
Message-ID: <199610251946.MAA06554@montana.nwlink.com>

Hi everyone!

First off, I would like to express many thanks to Guy Dragoo, Mr. Dunteman, and all of the others who have so kindly sent snail-mail schematics of 6L6 transmitters.

I think I now have a schematic of all the major oscillator designs and output circuits that were commonly employed from the 1930's to present. I will be scanning these diagrams this week on a page scanner and I will then post a list of what all I have to the group. Any interested parties can then email me what they want and I'll send it on it's way. I have found that they hold up much better if kept in the native .BMP format my scanner produces. I can make .JPG's but they tend to lose out a little on horizontal resolution (for some reason, vertical isn't affected). The list should be ready in a few days or so.

I have just completed my little rig (Guy Dragoo's schematic won out) and it works great with either rocks or my HG10 VFO (but that's cheating!). With the power supply I am using and a 6V6 in the socket, I get about 8 solid watts into a dummy load. The OD3 keeps me chirp free. Nice little xmtr!

Now I am on the prowl for a regen project. I have one neat design from the 1954 'How to Become a Radio Amateur' that I will probably tackle. Seems to have manageable coil designs that can be duplicated without using non-existent B&W coil stock.

On the boatanchor front, I just picked up a DX40 in very good condition for \$35! I hope to have it on the air this weekend. I also just got a National NC66 portable in kinda sad shape (great looks - just needs new caps and glowplugs). Very unique old receiver. The coverage is 200KC to 23MC (I don't think it tunes Hertz at all) - what an odd range. It is intended for portable use, and has a battery compartment for some flavor of B battery, plus an internal AC supply and telescope whip antenna. This will be the companion for the DX40 after I restore it. Not a bad project for only \$20. It's cosmetically very good, so well worth the money. It's a long shot, but if anyone has a schematic for the NC66 or the DX40, I would gladly pay the expenses to get a copy or swap hardcopy of the 6L6 rigs.

Ok, ok, I'll stop rambling!

Thanks again for the 6L6 stuff.

73's

Dave (aka Gordon Gekko)

WB7AWK
Tacoma, WA

Date: Fri, 25 Oct 1996 21:13:17 PST
From: k7yha@juno.com (Richard H. Arland)
To: bry@mnsinc.com
Cc: glowbugs@theporch.com
Subject: Re: TUBE BANK(s) Idea!
Message-ID: <19961025.212248.4399.1.k7yha@juno.com>

On Fri, 25 Oct 1996 07:37:36 -0500 (CDT) "Brian Carling" <bry@mnsinc.com>
writes:

>
>The idea is for a "tube bank."
>

GREAT IDEA!

I have a whole bunch of tubes that I would donate to the cause....been
collecting tubes for several years but don't have the time to go thru
them and test them all out.

FB idea.

73 rich K7YHA

Date: Sat, 26 Oct 1996 02:20:19 MST
From: aa7ya@juno.com
To: glowbugs@theporch.com

Subject: Re: Glowbugs admin ... please read.
Message-ID: <19961026.032149.5375.3.aa7ya@juno.com>

On Thu, 24 Oct 1996 14:37:03 -0500 (CDT) Conard Murray
<conard@tntech.campus.mci.net> writes:

> Hello to all 250 plus readers of the this list!

Hello Conrad, et. al.

> I am trying to do some work on the list and I would appreciate if you
> would take time to send me a message telling me your e-mail address is
> still valid and you are reading mail sent there.

I subscribe through one E-mail address which is...

<aa7ya@juno.com>

> I also notice that most of you are just lurking out there. If you are
> not too shy, drop the group a short note introducing yourself and what
> you like to work on or what you have built or want to build. Remember,
> you are the list and it becomes what you make it.

I am one of the "lurkers" on this list, since I joined a few weeks ago, and enjoy reading some of the posts on here.

I started using a Hallicrafters SR-400 as a Novice 3 years ago, but I had some trouble with fuses for some unknown reason, not because I had the wrong kind or size. I picked it up at a flea market before getting my initial Novice ticket, and was able to use it right away when the ticket came in the mail. I didn't get a chance to try out the SSB or AM portion of the radio, since I only had a 40 meter sloper up at the time, and was limited in where I could operate. Sure was a nice radio when it worked, and had good sensitive recieve and was a powerhouse on transmit, since I had alot of 599 reports in the log. :)

I hope to get back into the antique radio collecting again soon. By the way, my father is also a ham, and loves those Collins and Drake lines. He got a Drake "C-Line" as a birthday gift from my Mother several years ago, and it is his pride and joy. For those interested, I am 26 years old, live on a farm (hog and antenna farm), next door to my folks. I currently use a Kenwood 440S, and a 700 foot longwire up 45 feet on a tower and REA poles. I run barefoot (actully my rig does), but I myself wouldn't dare run barefoot in the cold basement. :)

That all from NE Montana, sure enjoy reading the posts on the SIG... Keep 'em coming!

>Thanks for the help and best of 73,
>de Conard, WS4S
>listowner, glowbugs
>
> Conard Murray WS4S NNNQUTN conard@tnitech.campus.mci.net
>217 Dyer Avenue BA/GB net 1802.5/3579.5/7050 KHz
> Cookeville, Tn 38501
>615-526-4093
> - LICENSED ONLY TO EXTENT INDICATED ON CARTON -
>

73 de Stacey, AA7YA
AA7YA @ AA7YA.#NEMT.MT.USA.NOAM
aa7ya@juno.com
Box 83 Whitetail, Montana 59276 (406) 779-3641
"The buck never gets here!"

Date: Sat, 26 Oct 1996 05:05:05 -0600 (MDT)
From: toyboat@freenet.edmonton.ab.ca
To: glowbugs@theporch.com
Subject: Hammarlund Coil Forms
Message-ID: <Pine.A41.3.95.961026045347.111750A-100000@fn2.freenet.edmonton.ab.ca>

I was viewing the text about the Doerle regen at:

<http://members.aol.com/caschwarz/homebrew.htm>

The parts list refers to Hammarlund XP-53 5-pin coil forms.

Does anyone know the diameter of this form?

The other coil data seems complete. I might build it, or at least use the coils in another regen project.

Thanks for any assistance.

** Shane <toyboat@freenet.edmonton.ab.ca> **

** Edmonton, Alberta, Canada **

Date: Sat, 26 Oct 1996 10:16:51 -0400 (EDT)
From: jlevro@shore.net (John Levreault)
To: k7yha@juno.com
Cc: glowbugs@theporch.com
Subject: Re: TUBE BANK(s) Idea!
Message-ID: <199610261416.KAA05988@relay1.shore.net>

>
>On Fri, 25 Oct 1996 07:37:36 -0500 (CDT) "Brian Carling" <bry@mnsinc.com>
>writes:
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>I have a whole bunch of tubes that I would donate to the cause....been
>collecting tubes for several years but don't have the time to go thru
>them and test them all out.
>
>FB idea.
>
>73 rich K7YHA
>
>

Indeed a great idea! I'd be happy to compile a list of the stuff I have.
Testing the whole batch would be quite time-consuming, but most of what I

have are NOS and I could test on an "as-needed" basis.

73 de NB1I
John Levreault

End of GLOWBUGS Digest 332
